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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SHINGLES, KRISTIE D	
ART UNIT	**PAPER NUMBER**
2141	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/991,339	ROLIA, JEROME	
	Examiner	Art Unit	
	Kristie Shingles	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-7, 9-12,14-21,23-26 and 28-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-7,9-12,14-21,23-26 and 28-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendments
Claims 1, 12, 20 and 31 have been amended.
Claims 3, 8, 13, 22 and 27 have been cancelled.

Claims 1, 2, 4-7, 9-12, 14-21, 23-26 and 28-35 are pending.

Response To Arguments

I. Applicant's arguments with respect to claims 1, 12, 20 and 31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

III. Claims 1, 2, 4-7, 9, 12, 14, 17-21, 23-26 and 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ellesson et al* (US 6,459,682) in view of *Bigus* (US 5,745,652).

a. **Per claim 1**, *Ellesson et al* teach the method of resource allocation comprising:

> a) calculating a plurality of demand values for a plurality of components, wherein said plurality of demand values is calculated from a combination of throughput and utilization metrics, wherein said components are communicatively coupled in series, wherein processing of a request received at a first component of said plurality of components proceeds forward through said components to a said components to a last component in said series and then backward through said components to said first component, and wherein said metrics are measurable at

points between said components (*col.4 lines 53-55 and 62-66, col.5 lines 63-65, col.6 lines 3-15 and 28-37, col.7 lines 1-6, col.9 lines 46-65, col.10 lines 4-8—performance monitoring via measuring and calculating traffic rates and node utilization for egress and ingress edge devices with traffic flow rates in either direction*);

b) predicting a plurality of response time metrics for said plurality of components based on said plurality of demand values (*col.5 line 66-col.6 line 4, col.7 lines 1-14, col. 9 line 66-col.10 line 28—predicting and forecasting the utilization of each node and link from the collected information*);

c) modeling said plurality of components based on an objective function that responds to conditions as represented by said plurality of response time metrics when at least one of said plurality of response time metrics does not satisfy at least one of a plurality of service level objectives to determine a new effective distribution of computational resources throughout said plurality of components such that said plurality of components that are modeled satisfies said plurality of service level objectives (*col.1 lines 38-65, col.2 lines 23-65, col.3 lines 8-11, col.10 lines 9-28—organizes and revises utilization of key components and communication mechanisms based on network measurements and predictability to meet performance objectives according to the service level agreements*); and

d) allocating computational resources throughout said plurality of components to reflect said new effective distribution (*col.2 line 66-col.3 line 7—provision to enable the network to modify allocation of resources based on network load measurements*).

Bigus further teaches implementing network corrective actions based on measured response times by modeling the system's resources according to the resource's performance data and predicting the system's response by simulating using a range of measured and expected workload parameters, and customizing the available resources of the network by dynamically allocating or altering configurations to accommodate changing workload (*col.3 lines 3-34, col.6 lines 33-45, col.7 lines 3-13, col.8 lines 2-21, col.9 lines 7-59*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Ellesson et al* with *Bigus* for the purpose of implementing a model of the resources' parameters in order to visually produce the performance metrics of the resources while allowing for

predictive performance metrics to be generated for the resource, in order to simulate the possible behavior of the resources and thus determine how the resources should be allocated or adjusted in order to satisfy the desired service objective.

b. **Claims 12, 20 and 31** contain limitations that are substantially similar to claim 1 and are therefore rejected under the same basis.

c. **Per claim 2,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Bigus* further teaches wherein said plurality of components comprise an application environment (*col.1 lines 34-40, col.6 lines 33-53*).

d. **Claim 21** is substantially similar to claim 2 and is therefore rejected under the same basis.

e. **Per claim 4,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Ellesson et al* further teach wherein said at least one of a plurality of service level objectives applies to said plurality of components on a system-wide basis (*col.2 lines 23-55; Bigus: Abstract, col.7 lines 54-57*).

f. **Claim 23** is substantially similar to claim 4 and is therefore rejected under the same basis.

g. **Per claim 5,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Bigus* further teaches wherein said at least one of a plurality of service level objectives applies to said plurality of components on a subsystem basis (*Abstract, col.10 lines 22-35; Ellesson et al: col.1 lines 38-65, col.2 lines 23-55*).

h. **Claim 24** is substantially similar to claim 5 and is therefore rejected under the same basis.

i. **Per claim 6,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Ellesson et al* further teach wherein said at least one of a plurality of service level objectives applies to one of said plurality of components (*col.1 lines 38-65, col.2 lines 23-55; Bigus: Abstract, col.9 lines 53-65, col.10 lines 30-35*).

j. **Claim 25** is substantially similar to claim 6 and is therefore rejected under the same basis.

k. **Per claim 7,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Bigus* further teaches wherein a) further comprises: receiving a plurality of metric values from said plurality of components, said plurality of metric values used to calculate said demand values (*col.7 lines 1-6; Ellesson et al: col.1 lines 48-55, col.3 lines 8-13*).

l. **Claim 26** is substantially similar to claim 7 and is therefore rejected under the same basis.

m. **Per claim 9,** *Ellesson et al* and *Bigus* teach the method of claim 1, *Bigus* further teaches wherein c) comprises: inputting said plurality of demand values into a predictive model to determine said new effective distribution of computational resources (*col.3 lines 3-34, col.6 lines 33-45, col.7 lines 3-13, col.8 lines 2-21, col.9 lines 7-59; Ellesson et al: col.5 line 66-col.6 line 2*).

n. **Claims 17, 19, 28 and 33** are substantially similar to claim 9 and are therefore rejected under the same basis.

o. **Per claim 14,** *Ellesson et al* and *Bigus* teach the method of claim 12, *Ellesson et al* further teach wherein d) further comprises: determining a plurality of optimum numbers of computational resources, one for each of said plurality of components, that represents said new

effective distribution of computational resources (*col.3 line 66-col.3 line 11, col.7 lines 1-15; Bigus: col.3 lines 22-34*).

p. **Per claim 18,** *Ellesson et al* and *Bigus* teach the method of claim 12, *Ellesson et al* further teach wherein said plurality of metric values include throughput metrics and utilization metrics (*col.2 lines 51-65, col.3 lines 8-13; col.6 lines 28-49, col.7 lines 1-15, col.9 line 47-col.10 line 8; Bigus: col.3 lines 9-17*).

q. **Claim 32** is substantially similar to claim 18 and is therefore rejected under the same basis.

r. **Claim 34** is substantially similar to claims 10 and 11 and is therefore rejected under the same basis.

s. **Per claim 35,** *Ellesson et al* and *Bigus* teach the network of claim 31, *Ellesson et al* further teach the network wherein said plurality of components comprise a local area network (LAN) (*Abstract, col.1 lines 8-12, col.2 lines 23-25*).

IV. Claims 10, 11, 15, 16, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ellesson et al* (US 6,459,682) and *Bigus* (US 5,745,652) in view of *Mangipudi et al* (6,728,748).

t. **Per claim 10,** *Ellesson et al* and *Bigus* teach the method of claim 1 as applied above. *Ellesson et al* further teach the modifying the resources allocated in order to decrease network load (*col.3 lines 2-7*), yet fail to that removing computational resources to said plurality of components. However, *Mangipudi et al* removing and adding computational resources from said plurality of components to reflect the modified configurations (*col.5 lines 43-51, col.10 lines 51-56, col.11 lines 42-46, col.12 lines 49-52, col.14 lines 45-48*). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to combine the teachings of *Ellesson et al* and *Bigus* with *Mangipudi et al* in order to provision allocation or de-allocation of the resources necessary to meet the performance objectives of the service level agreements.

u. **Claims 15 and 29** are substantially similar to claim 10 and are therefore rejected under the same basis.

v. **Per claim 11,** *Ellesson et al* and *Bigus* with *Mangipudi et al* teach the method of claim 1, *Mangipudi et al* further teach wherein d) comprises: adding computational resources to said plurality of components (*col.5 lines 43-51, col.13 lines 51-56, col.14 lines 38-44*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of *Ellesson et al* and *Bigus* with *Mangipudi et al* in order to provision allocation or de-allocation of the resources necessary to meet the performance objectives of the service level agreements.

w. **Claims 16 and 30** are substantially similar to claim 11 and are therefore rejected under the same basis.

Conclusion

V. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Bouillet et al (7,165,115 and 6,954,739), Mangipudi et al (7,124,188), Goodman et al (7,020,697), Davies et al (7,006,435) Jorgensen (6,862,622).

VI. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

VII. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The examiner can normally be reached on Monday-Friday 8:30-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER